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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,697	11/28/2000	Katsuya Irie	1466.1017	4563

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STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON, DC 20001

EXAMINER

HARPER, HOLLY R

ART UNIT PAPER NUMBER

2879

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,697

Applicant(s)

IRIE ET AL.

Examiner

Holly R. Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 8 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 04 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Amendment to the specification, filed on 3/4/03, has been entered and acknowledged by the Examiner.

The Amendment to the claims, filed on 3/4/03, has been entered and acknowledged by the Examiner.

Cancellation of claim 6 has been entered.

Claim 8 has been added.

The 112(2nd) rejection has been withdrawn.

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 3/4/03 have been accepted. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Election/Restrictions

2. Newly submitted claim 8 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 8 is directed to a method of producing and is therefore classified in 445/58.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution

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on the merits. Accordingly, claim 8 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushifusa et al. (USPN 5,818,168) hereinafter "Ushifusa" in view of Teng et al (USPN 6,229,252) hereinafter "Teng."

In regard to claims 1 and 2, the Ushifusa reference discloses a plasma display device that has blue, green, and red phosphors (a type of fluorescent) each in their own discharge cell (Column 13, Lines 55-63). Three different color phosphors are used to create a color display device rather than a chromatic one. The Ushifusa reference does not disclose the use of a filter. The Teng reference discloses a filter that increases the color temperature (Column 11 and 12, Table 2) of the mixed color. The filter can be free standing in front of a plasma display device or adherable to the device surface (Column 3, Lines 19-23). The filter enhances the contrast and color of images from a color display monitor without significantly sacrificing brightness of the image therefrom (Column 3, Lines 4-8). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate a filter on the

display device, as taught by Teng, to enhance the contrast and color of images from a color display monitor.

Regarding claim 1, the functional language that “the filter having special characteristics of converting the mixed color to a color having a higher color temperature, defined by chromaticity coordinates that is closer to the blackbody locus and defined by chromaticity coordinates in which a negative deviation from the blackbody locus is generated” has not been given patentable weight because it is narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a “means” for performing the specified function, as set forth in 35 U.S.C. § 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language.

In regard to claim 7, the Teng reference further discloses a filter with an absorption peak falling into the wavelength region of 550 nanometers to 610 nanometers (Column 11, Lines 20-21). The filter substantially increases the transmission of the primary colors from the reflected light of a color display device while substantially absorbing the non-primary colors, and thereby improves the contrast and color of the image for the viewers (Column 4, Lines 31-35).

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teng and Ushifusa as applied to claims 1 and 2 above and in view of Ilcisin et al. (USPN 5,990,619) hereinafter “Ilcisin.”

The Teng and Ushifusa references do not disclose the use of uneven structural conditions where the structure conditions are effective areas of the electrodes. The Ilcisin reference teaches the use of nonuniform electrodes in plasma display devices. The nonuniformities include surface nonuniformities, bulk nonuniformities, and geometric nonuniformities (Column 2, Lines 58-62).

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Nonuniform electrodes have improved quality because of reduced firing voltages in one plasma channel region compared to another, reduced sputtering damage, reduced total plasma discharge current, decreased discharge initiation time, and decreased ionized gas decay time (Column 2, Line 66- Column 3, Line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to create electrodes with surface nonuniformities, as taught by Ilcisin, to enhance the color quality.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teng and Ushifusa as applied to claims 1 and 2 above and in view of Shiiki et al. (USPN 6,411,032) hereinafter "Shiiki."

The Teng and Ushifusa references do not disclose the use of discharge cells with varying widths. Shiiki teaches that a plasma display device can be created with varying spaces between the barrier ribs for defining discharge spaces for the red, blue, and green colors. (Column 2, Lines 45-50 and Figure 1) This configuration would allow adjustment of the color temperature of white color by adjusting the luminance balance of red, blue, and green light emissions (Column 3, Lines 3-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the widths of the discharge cells, as taught by Shiiki, to enhance the color reproducibility.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teng and Ushifusa as applied to claims 1 and 2 above and in view of Wedding (USPN 5,793,158).

The Teng and Ushifusa references do not disclose a plasma display device with varying thickness values of the dielectric layers that cover electrodes for generating gas discharge.

Wedding teaches that a plasma display device can be created with a different dielectric thickness

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over the electrodes. By varying the thickness, adjustments can be made for differences in power input and brightness output for each phosphor. (Column 14, Lines 13-21) It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the dielectric thickness, as taught by Wedding, to increase the color quality of the plasma display device.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Holly Harper
Patent Examiner
Art Unit 2879



VIP PATEL
PRIMARY EXAMINER